

## **FOOD SCIENCE**

**Description of Activity:** School districts desiring to add Food Science to a career focus program of study in food production, management, and services or family and consumer sciences may utilize Perkins funds, provided the curriculum and inservice components are included. Food Science is a semester course designed to allow research and experimentation in the area of food preparation, storage, processing, and production. Students gain hands-on experience with the chemical and physical changes that occur during all stages of production from harvest through preparation. Required #1 – Strengthen Academic and Vocational Skills; Required #6 – Expand, Modernize Programs; Permissive #10 – Develop New Programs.

**Curriculum:** Schools must currently have an approved program of study in food production, management, and services or family and consumer sciences and offer Food and Nutrition and Food Science to be eligible for this special training. The new Food Science curriculum developed by the Arkansas family and consumer sciences teachers will be the official curriculum. Student textbooks may not be purchased with Perkins funds. This course must be taught for a total of five years after the addition of this activity.

**Inservice:** Approved state inservice has tentatively been scheduled for July 25-28 at the Russellville Vocational Center in Russellville. Registration fee will be \$400 and will cover the cost of trainer fees, instructional materials, and some meals. Travel, additional meals, and lodging are not included in the registration fee.

**Cost:** The cost of scientific equipment and special supplies needed for the course should not exceed \$7,000. A list of equipment and supplies may be obtained from the program manager for family and consumer sciences.

# Food Science

## Perkins Improvement Activity Equipment List

- Description of Activity:** A semester course designed to focus on the scientific method to study the relationships between food, science, nutrition, and food preparation
- Curriculum Component:** Food and Nutrition must be offered as part of an approved career focus program of study in the area of family and consumer sciences, and the course must be taught for a total of five years after the addition of this activity. The curriculum developed by Arkansas FACS teachers will be the approved curriculum.
- Inservice Component:** Approved state inservice has tentatively been scheduled for July 25-28 at the Russellville Vocational Center in Russellville. Registration fee will be \$400 and will cover the cost of trainer fees, instructional materials, and some meals. Travel, additional meals, and lodging are not included in the registration fee.
- Equipment Component:** Estimated cost should not exceed \$7,000.

### Approved Purchases:

<u>Quantity</u>	<u>Item/Description</u>	<u>Estimated Cost</u>
<u>Equipment:</u>		
1	Incubator	\$275
4	Microscopes, 4X, 10X, 40XR, parafoval objectives widefield 10X eyepiece with pointer, disc, diaphragm, 15W illuminator, 360-degree rotatable head	\$2,000
25	Safety goggles, adjustable sizes for eyeglass and contact lens wearers	\$175
2	Electronic balance, must mass 0.01 g to 250 g	\$780
<u>Chemicals:</u>		
100 g	Ascorbic acid (for human consumption)	\$11
100 ml	Benedict's solution	\$4
50 g	Calcium chloride	\$7
500 g	Calcium sulfate	\$5
1 g	2,6 dichloroindophenol	\$9
500 ml	Glycerol	\$9
500 ml	Iodine solution Lugol's (Reag)	\$10
500 g	Lactose (for human consumption)	\$10
100 g	Magnesium sulfate	\$6
250 g	Maltose (for human consumption)	\$14
1 g	Methylene blue	\$14
100 g	Oxalic acid	\$9
500 ml	Phenolphthalein	\$6
200 g	Potassium chloride	\$8
500 g	Potato starch powder pure corn	\$26
25 gm	Rennet (25 tabs)	\$33
100 ml	Biuret solution	\$4
100 g	Sodium bisulfite (not metabisulfite)	\$8
100 g	Sodium citrate	\$10
500 g	Sodium hydroxide	\$11
4 lb	Alconox cleaner	\$21
500 g	Iron filings	\$4
500 g	Sand	\$4

Additional Supplies:

6	10 ml graduated cylinders, pyrex	\$60
6	100 ml graduated cylinders, pyrex	\$108
12	1,000 ml beakers	\$80
24	150 ml beakers	\$58
24	250 ml beakers	\$55
24	250 ml Erlenmeyer flasks	\$210
20	400 ml beakers	\$56
24	50 ml beakers	\$58
12	600 mL beakers	\$42
12	Alcohol thermometers, -20 to 100 C	\$57
12	Burets, glass	\$768
100	Large corks	\$39
2	Food dehydrators	\$100
10	Magnifying glasses	\$52
12	Medicine droppers	\$3
72	Microscope slides	\$8
2 sets	Plastic beakers	\$35
6	Ring stands with utility clamps	\$144
20	Stirring rods	\$6
76	#0, one hole stoppers	\$10
106	#2, solid stoppers	\$20
6	Test tube racks	\$120
144	Test tubes, pyrex, 18 x 150 mm	\$87
12	Watch glasses	\$22
12	Test tube brushes	\$24
100	Disposable polyethylene aprons	\$22
20	Petri dishes, disposable, polystyrene, sterile	\$8
12 rolls	pH paper, 1-15 range	\$62
25	Pipette, dropping, plastic	\$7
5	Spatula, micro, stainless steel	\$4
1 pkg.	Weighing paper (500 sheets)	\$15
5	Stop watches	\$60
1	Lab safety chart	\$49
1	Lab techniques chart	\$49
10 pkgs.	Disposable gloves (5 pkgs. large, 5 pkgs. medium)	\$24
5	Beaker tongs with protective sleeves	\$41
1	Fire blanket	\$75
5	Magnets	\$25
1 pkg.	Filter paper	\$5
5	Wash bottles	\$15
1	Glow germ kit	\$53
4	Square baking pans	\$15
4	Blenders or food processors	\$115
4	23 cm diameter cake pans	\$12
4	Can openers	\$24
4	Candy thermometers	\$16
4	Custard cups	\$6
4	Cutting boards	\$20
4	Electric hand mixers	\$60
4	Forks	\$5
1	Aluminum frying pan	\$15
1	Aluminum frying pan with nonstick coating	\$15
1	Cast iron frying pan	\$15
1	Stainless steel frying pan with copper bottom	\$15
1	Porcelain enamel frying pan	\$15
1	Stainless steel frying pan	\$15
4	Funnels	\$5

Additional Supplies: (cont.)

8	Small water glasses	\$11
1	Hot air popcorn popper	\$20
4	125 ml measuring cups	\$10
4	250 ml measuring cups	\$10
4	50 ml measuring cups	\$10
4	Metric rulers	\$6
8	Large mixing bowls	\$40
4	Muffin tins	\$12
4	Long needles	\$2
4	Paring knives	\$16
4	Pastry blenders	\$12
4	Clear glass pie plates	\$16
4 pkgs.	Pins with plastic heads	\$2
4	Pitchers, 1.0 liters	\$12
4	Plastic or wooden mixing spoons	\$3
4	Plastic rings, 5.3 cm wide x 2.5 cm high	\$5
1	Plastic squeeze bottle	\$1
4	Rolling pins	\$20
8	Saucepans	\$50
4	Saucepans, extra large	\$25
4	Saucers or small plates	\$12
4	Sifters	\$10
4	Rubber spatulas	\$8
4	Spatulas, straight edge	\$10
8	Spoons, 5 ml	\$15
4	Serving spoons	\$10
4	Strainers	\$15
4	Tongs	\$10
8	Heat-resistant trays	\$25
8	Wide mouth jars, 0.9 liter with lid	\$25
Estimated Total		\$7,000

# Commitment/Registration Form

## Food Science

July 25-28, 2005

Russellville Vocational Center

Russellville, Arkansas

**Deadline for registration is July 8, 2005. No refunds after this date.**

**Maximum number of participants is 30.**

Name: \_\_\_\_\_

School: \_\_\_\_\_

School Address: \_\_\_\_\_

School Telephone: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ School Fax: \_\_\_\_\_

Home Telephone: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

### Teacher:

I understand that by participating in this inservice activity, I agree to implement this course in my family and consumer sciences program of study during the 2005-06 school year and that I must teach this course for a total of five years or else relinquish the equipment purchased as part of this activity.

Teacher Signature \_\_\_\_\_ Date \_\_\_\_\_

### Superintendent:

I agree to support this course offering in the family and consumer sciences department starting with the 2005-06 school year and that it must be taught for a total of five years after the addition of this activity. The school district will purchase the required equipment and supplies through Perkins Improvement Funds.

Superintendent Signature \_\_\_\_\_ Date \_\_\_\_\_

### Perkins Consortium Coordinator

I understand that this teacher needs re-training in the Food Science activity for the 2005-06 school year through the use of Perkins Improvement Funds. I agree to work with the school to purchase the necessary equipment and supplies and to cover the cost of the workshop.

Perkins Consortium Coordinator Signature \_\_\_\_\_ Date \_\_\_\_\_

To complete the registration, you must mail this form along with a check or purchase order for \$400 to the FACS state office. Registration does not cover lodging.

Make checks or purchase orders **payable to AATFACS / FACS Inservice**

**Mail to:** Suellen Ward, FACS Program Manager  
Three Capitol Mall Room 408  
Luther S. Hardin Building  
Little Rock, AR 72201

Phone: (501) 682-1115  
Fax: (501) 682-9440